

REMARKS/ARGUMENTS

Claim 1 was rejected under 35 USC 103(a) as being unpatentable over Prior Art (Admission), Walter and Rashid.

Claim 1 relates to a power supply device incorporated in a vehicle driven by an internal combustion engine. The device includes a first power supply system that uses a first generation coil provided in a generator driven by the internal combustion engine for driving a vehicle as a power source to supply DC power to a power supply line that provides a power supply voltage to an electrical load or electrical loads provided in the vehicle. A second power supply system is provided that uses a second generation coil provided in the generator as a power source to supply an AC power to an external load.

In claim 1 a power supply circuit provides for assistance in supplying a DC output having a voltage value equal to or close to a rated value of an output voltage of the first power supply system, from said second power supply system to said power supply line, to assist said first supply system, when an output of said first power supply system is insufficient. Turns of the first generation coil are set to generate an output necessary for driving the electrical load when a rotational speed of the internal combustion engine exceeds a set rotational speed although the first generation coil can not generate the output necessary for driving the electrical load when the rotational speed of the engine is equal to or less than the set speed.

Thus, in the invention disclosed in claim 1, turns of the first generation coil are set so that the first generating coil generates the output necessary for driving the electrical load only when the rotational speed of the engine exceeds the set rotational speed. Therefore, as a matter of course, turns of the first generation coil are smaller than turns of the generation coil which is used for driving the electrical load in the prior art.

Therefore, according to the present invention, since the first generation coil that is used as the power source of the first power supply system can be small, and sufficient power can be supplied to the electrical component when the engine is operated at a low speed, the first generation coil and the second generation coil can be placed in a common generator without increasing the size of the generator.

Prior Art (Admission) discloses that two electric power supply systems, a first electric power supply system and a second electric power supply system, are provided. However it does not teach that an electric power for assistance is supplied from the second electric power supply system to a power supply line than provides a power supply voltage to an electrical load or loads provided in the vehicle, when an output of the first electric power supply system is insufficient.

Also, both Walter and Rashid do not teach that the second power supply system supplies a DC output having a voltage value equal to or close to a rated value of an output voltage of the first power supply system to the power supply line that provides a power supply voltage to the electrical loads when an output of the first power supply is insufficient. Turns of the first generation coil are set so that the first generation coil generates an output necessary for driving the electrical load when a rotational speed of the internal combustion engine exceeds a set rotational speed, to reduce the size of the first generation coils as disclosed in the present invention, although the first generation coil cannot generate the output necessary for driving the electrical load when the rotational speed of the engine is equal to or less than the set speed.

Walter discloses an inverter system in which an electric power is supplied from two power supply systems (12, 14) which are identical each other to one or both of two receptacles (64, 66), and a voltage which is a sum of both power supply systems is supplied to the receptacle 68. Since the two power supply systems provided in the system of Walter are identical in construction, Walter does not teach that a generation coil which is a power source for one power supply system is miniaturized by providing a circuit for supplying an electric power for assistance from the other power supply system to one power system when an output from one power system is insufficient.

Thus, if the invention of Walter is applied into Prior Art (Admission), it is not possible to obtain the power supply system as disclosed in the present invention in which the size of the first generation coil is reduced by supplying electric power for assistance from the second power supply system to the power supply line, when the output of the first power supply system is insufficient, and turns of the first generation coil are set so as to generate an output necessary for driving the electrical load when a rotational speed of the internal combustion engine exceeds a set rotational speed.

Rashid discloses two generation coils in one generator and that each generation coil constitutes different electric power supply systems. However, Rashid does not disclose that turns of one generation coil of one power supply system are reduced by supplying electric power for assistance from the other power supply system to the power supply line when an output of one power supply system is insufficient.

Therefore, if the invention of Rashid is applied to Prior Art (Admission), it is not possible to obtain the power supply system as disclosed in the present invention.

As aforementioned, the power supply system as disclosed in the present invention can not be obtained if the invention of Walter or Rashid is applied to Prior Art (Admission).

Claim 2 is rejected as being unpatentable over Prior Art (Admission) and Walter.

Prior Art (Admission) discloses that two power supply systems, the first power supply system and the second power supply system, are provided, but it does not disclose that electric power for assistance is supplied from the second power supply system to the power supply line of the first power supply system when an output of the first power supply system is insufficient.

Walter does not teach that the second power supply system supplies a DC output having a voltage value equal to or close to a related value of an output voltage of the first power supply system to the power supply line that provides a power supply voltage to the electrical loads when an output of the first power supply is insufficient. Turns of the first generation coil are set so that the first generation coil generates an output necessary for driving the electrical load when a rotational speed of the internal combustion engine exceeds a set rotational speed, to reduce the size of the first generation coil as disclosed in the present invention, although the first generation coil cannot generate the output necessary for driving the electrical load when the rotational speed of the engine is equal to or less than the set speed.

Since the two power supply systems provided in the system of Walter are identical in construction, Walter does not teach the generation coil which is the power source for one power supply system is miniaturized by providing the circuit for supplying the electric power for assistance from the other power supply system to the power supply line when an output of the output from one power supply system is insufficient.

Thus, even if Walter is incorporated to Prior Art (Admission), it is not possible to obtain the power supply system as disclosed in the present invention.

As stated above, claim 1 is rejected as being unpatentable over Prior Art (Admission), Walter and Rashid and claim 2 is rejected as being unpatentable over Prior Art (Admission) and Walter should be withdrawn, since the invention disclosed in claim 1 of the present invention can not be obtained even if Walter and Rashid are incorporated into Prior Art, and the invention disclosed in claim 2 of the present invention can not be obtained even if Walter is incorporated to Prior Art.

Appl. No. 10/632,299
Amdt. dated October 2, 2006
Reply to Office action of June 5, 2006

For the reasons stated it is believed that this application is now in condition for allowance and allowance of the this application is respectfully requested.

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If there are any additional fees resulting from this communication, please
charge same to our Deposit Account No. 16-0820, our Order No. 35985.

Respectfully submitted,
PEARNE & GORDON LLP

By: 
Thomas P. Schiller, Reg. No. 20677

1801 East 9th Street
Suite 1200
Cleveland, Ohio 44114-3108
(216) 579-1700

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